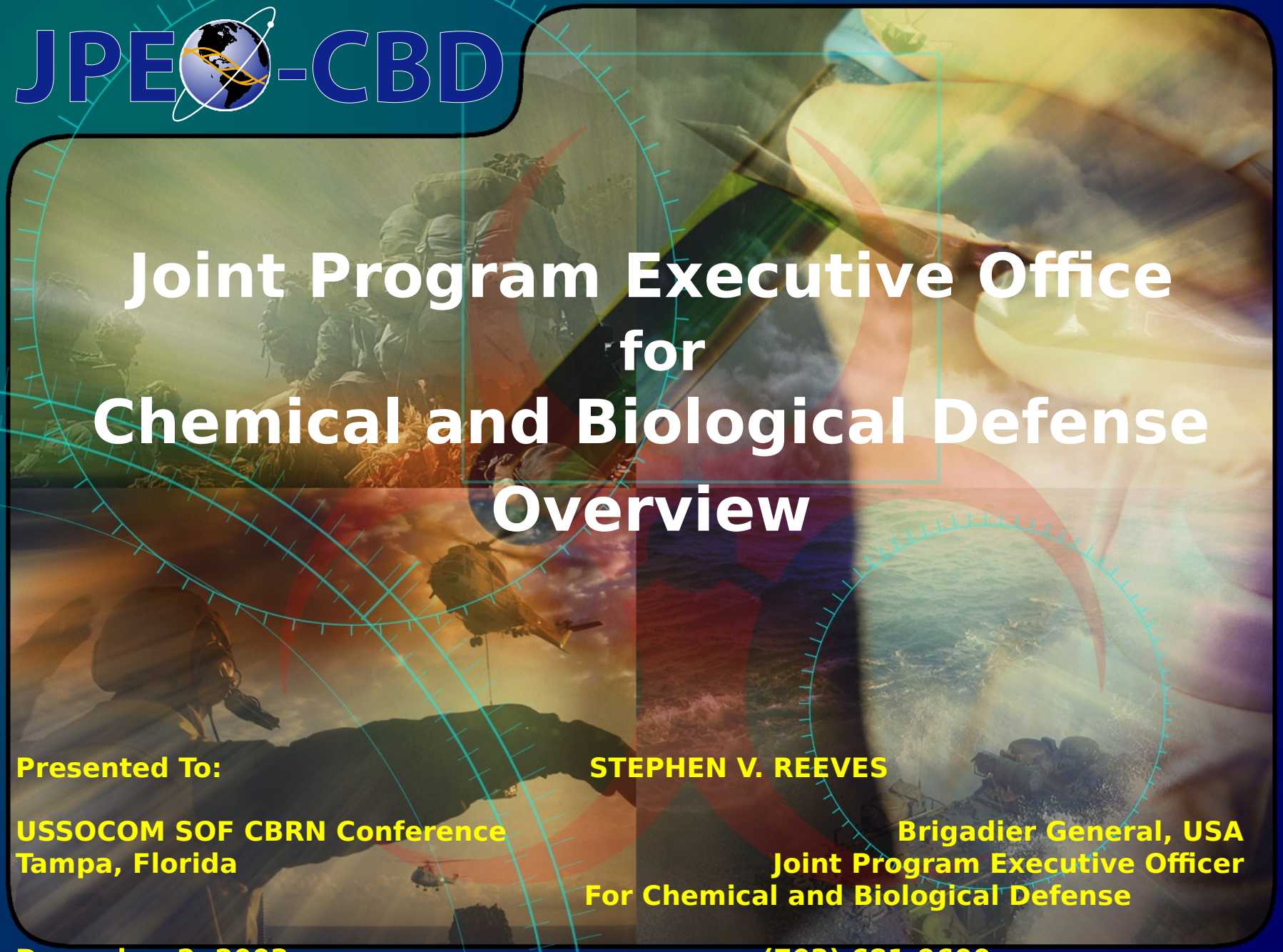


Joint Program Executive Office
for
Chemical and Biological Defense
Overview

Presented To:

USSOCOM SOF CBRN Conference
Tampa, Florida

December 2, 2003

STEPHEN V. REEVES

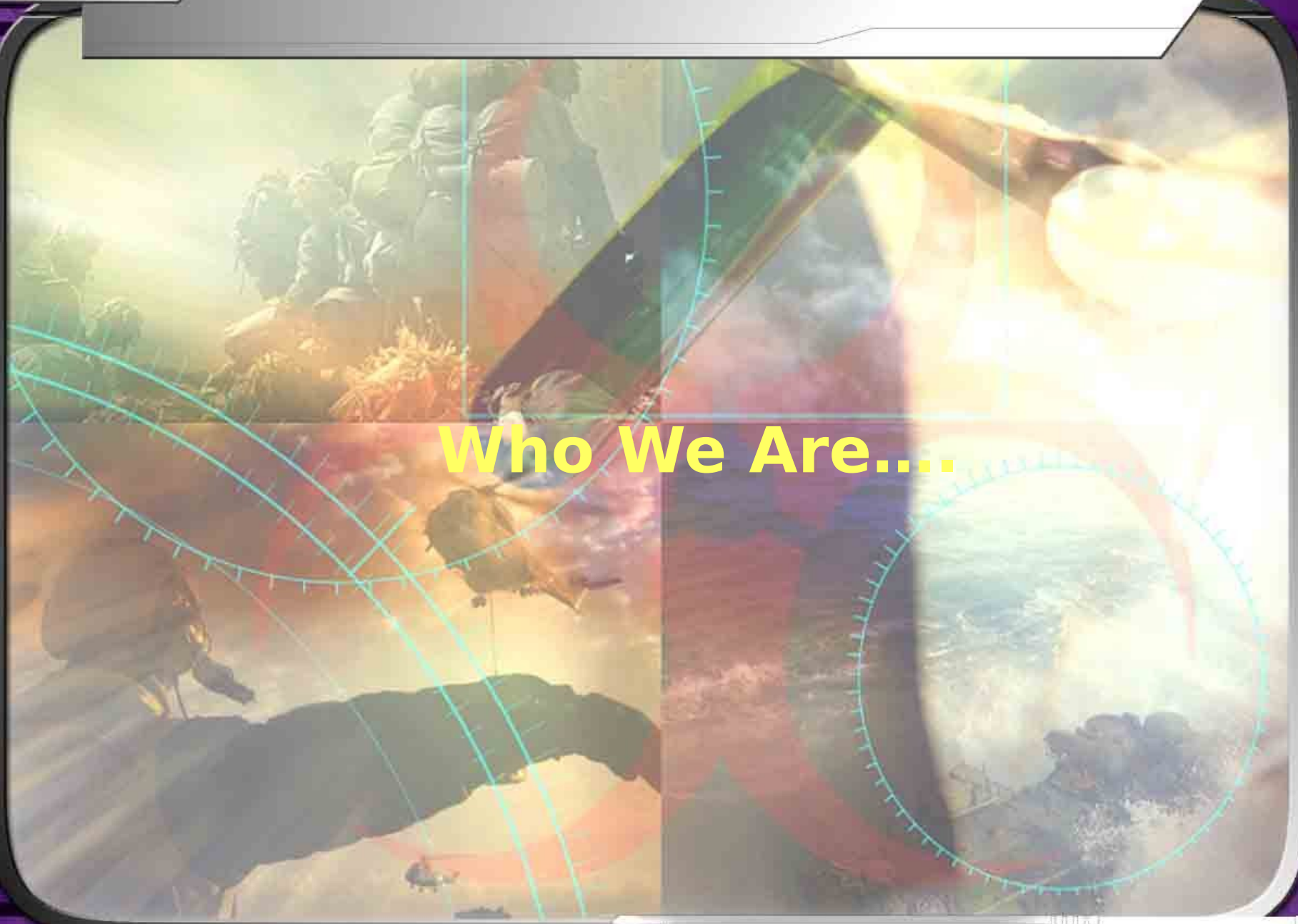
Brigadier General, USA
Joint Program Executive Officer
For Chemical and Biological Defense

(703) 681-9600

Overview

- Who We Are
  - Where We Are
    - Where We're Going

JPEO-CBD



Who We Are….

JPEO-CBD

GENESIS of the Joint Program Executive Office for Chemical and Biological Defense (JPEO)

Joint Program Office for Biological Defense

1995 - 2001

Program Executive Office for Chemical and Biological Defense

2001 – April 21, 2003

Joint Program Executive Office for Chemical and Biological Defense

April 22, 2003

Single Face To Warfighter

Chem/ Bio Defense Program Acquisition Organizations

Defense Acquisition Executive (USD-ATL)

Requirements

Joint Requirements Office J-8

Army Acquisition Executive (ASA-ALT)

OSD Oversight

ATSD (NCB)

DATSD (CB)

Science & Technology

Defense Threat Reduction Agency - Chem/ Bio Directorate

Joint Program Executive Officer

Joint Doctrine & Training

Joint Staff

Test & Evaluation

Test & Evaluation Executive (DUSA-OR)

Joint Program Managers

US Army Chemical School

P.L. 103-160

Mission

Responsible for Research, Development, Acquisition, Fielding, and Life-cycle Support of all Chemical, Biological, Radiological, and Nuclear (CBRN) Defense Equipment and Medical Countermeasures Supporting the Joint Service and the National Military Strategy.

Joint Program Executive Office Areas of Responsibility

- Vaccines
- Treatments
- Diagnostics
- Contamination Avoidance
- Individual Protection
- Collective Protection
- Decontamination
- Weapons of Mass Destruction – Civil Support
- Installation/ Force Protection

JPEO-CBD Joint Project Managers

Information Systems

San Diego, CA

CAPT TOM O'KEEFE (NAVY)

NBC Contamination Avoidance

Edgewood, MD

COL DON BURNETT (ARMY)

Chemical Biological Medical Systems

Frederick, MD

COL STEPHEN BERTÉ (ARMY)

Collective Protection

Washington DC

MR STAN ENATSKY (NAVY)

Individual Protection

Quantico, VA

MR DOUG BRYCE (USMC)

Decon

San Antonio, TX

COL AL BURNETT (USAF)

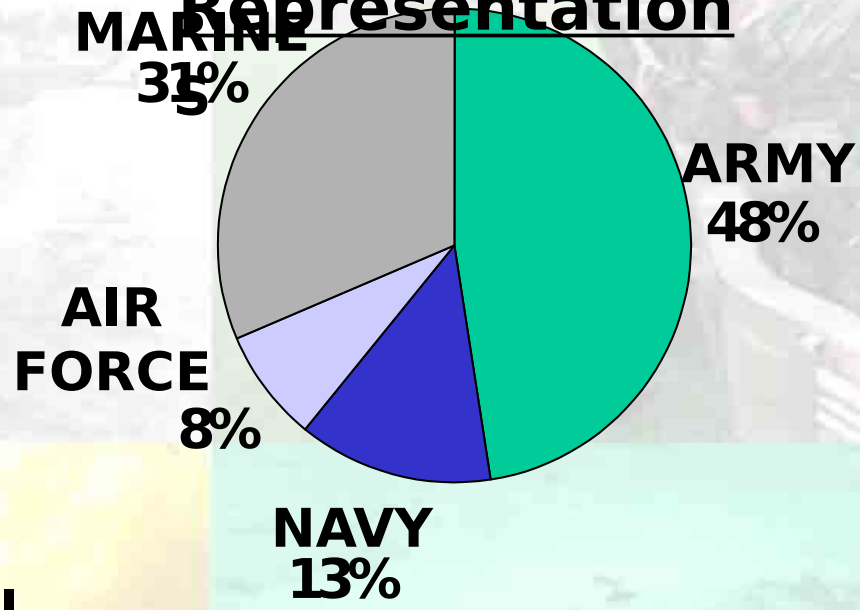
Guardian

Falls Church, VA

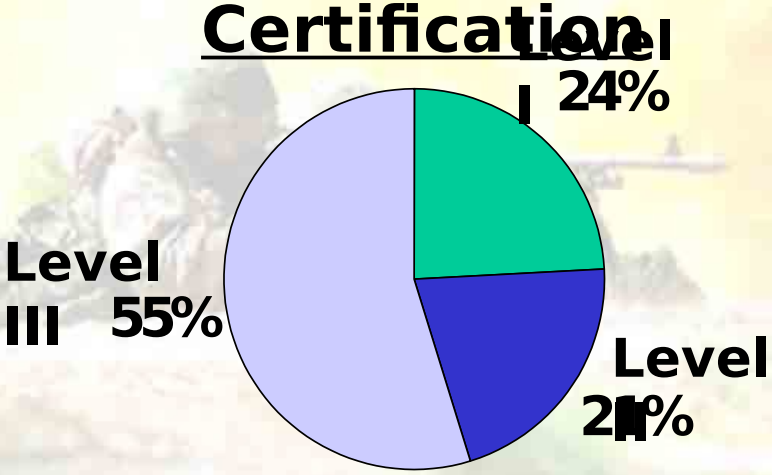
COL CAMILLE NICHOLS (ARMY)

A JOINT Program Executive Office

Service Representation



Acquisition Certification



Joint Program Executive Office Board of Directors

Other Members

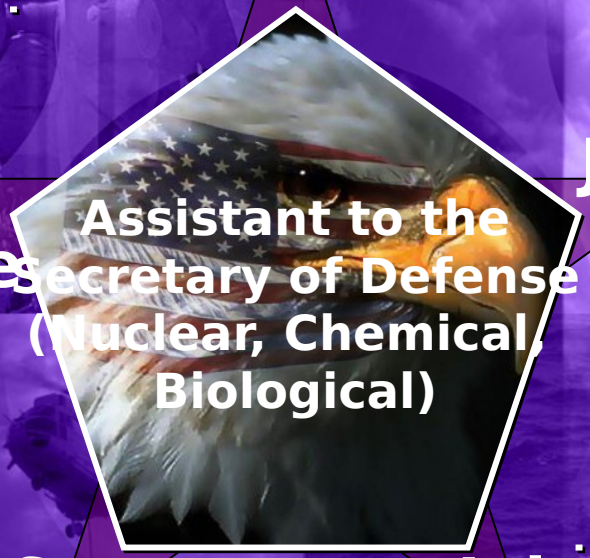
- SOCOM
- Joint Requirements Office
- Joint S&T Executive

JPEO-CBD

Joint Services Chemical and Biological Defense Program

Joint Requirements Office

Joint Program Executive Offices

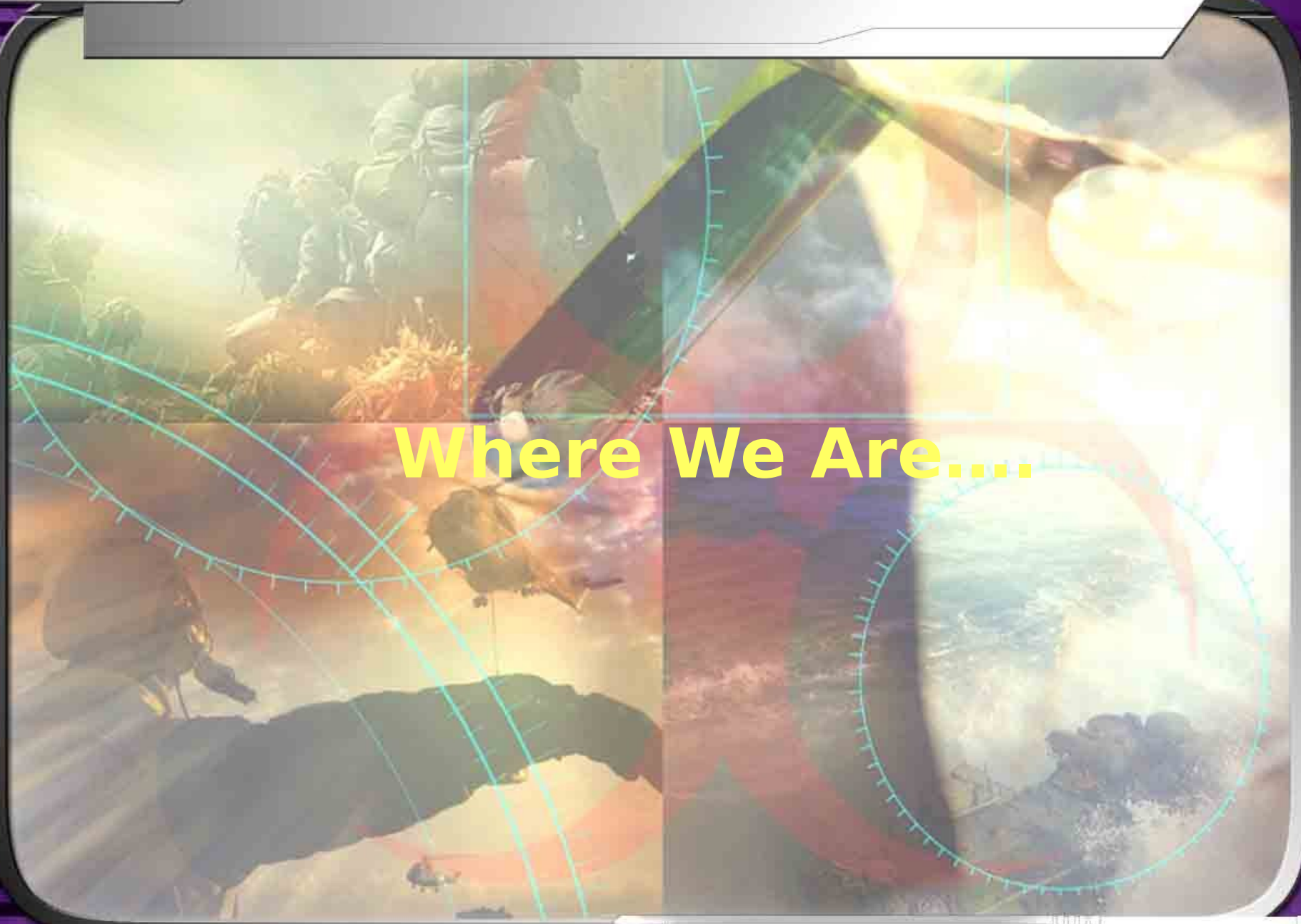


Joint Science & Technology Executive

Joint Test & Evaluation Executive

Joint Combat Developer

Delivering Joint Warfighting Capabilities



Where We Are….

System of Systems Approach to Providing Warfighting Capabilities

Sustained Combat Power

CB Threats & Hazards

Agent Delivery → Doses on Target → Downwind Dispersal → Doses Absorbed → Symptoms

Medical Pretreatment

Individual & Collective Protection

Medical Treatment

Contamination Avoidance & NBC Battle Management (Detection, Identification, Reconnaissance & Warning)

Installation Force Protection

Decontamination, Restoration

We've Been Working The Problem For A While…

Delivering Warfighting Capabilities

- **The JPEO-CBD Has Fielded Over 27 *New* Chemical/Biological Defense Systems and Over 3 Million Pieces of Individual Equipment (Including Masks) in the Last 7 Years**

  - **23 Chem/ Bio Defense Systems and 1 Retrofit Were Fielded in FY 03**
  - **21 Chem/ Bio Defense Fielding And 1 Retrofit Are Planned for FY 04**

Delivering Warfighting Capabilities
First Time Capabilities

Detectors:

- Dry Filter Unit
- Automated Chemical Agent Monitor for Non-Traditional Agents (ACADA-NTA)
- M31 Biological Integrated Detection System
- M31A1 Biological Integrated Detection System (P31)
- M31E2 Biological Integrated Detection System
- M93/M93A1 FOX Reconnaissance Vehicle and MM1 Chip
- Joint Biological Point Detection System (JBPDS)
- Joint Portal Shield (JPS)

JPEO-CBD

Delivering Warfighting Capabilities Con't
First Time Capabilities

Detectors:

Joint Biological Agent Identification and Diagnostic System (JBAIDS)

Immunochromatographic Hand Held Assays (HHAs)

Electrochemiluminescence (ECL) Assays

Polymerase Chain

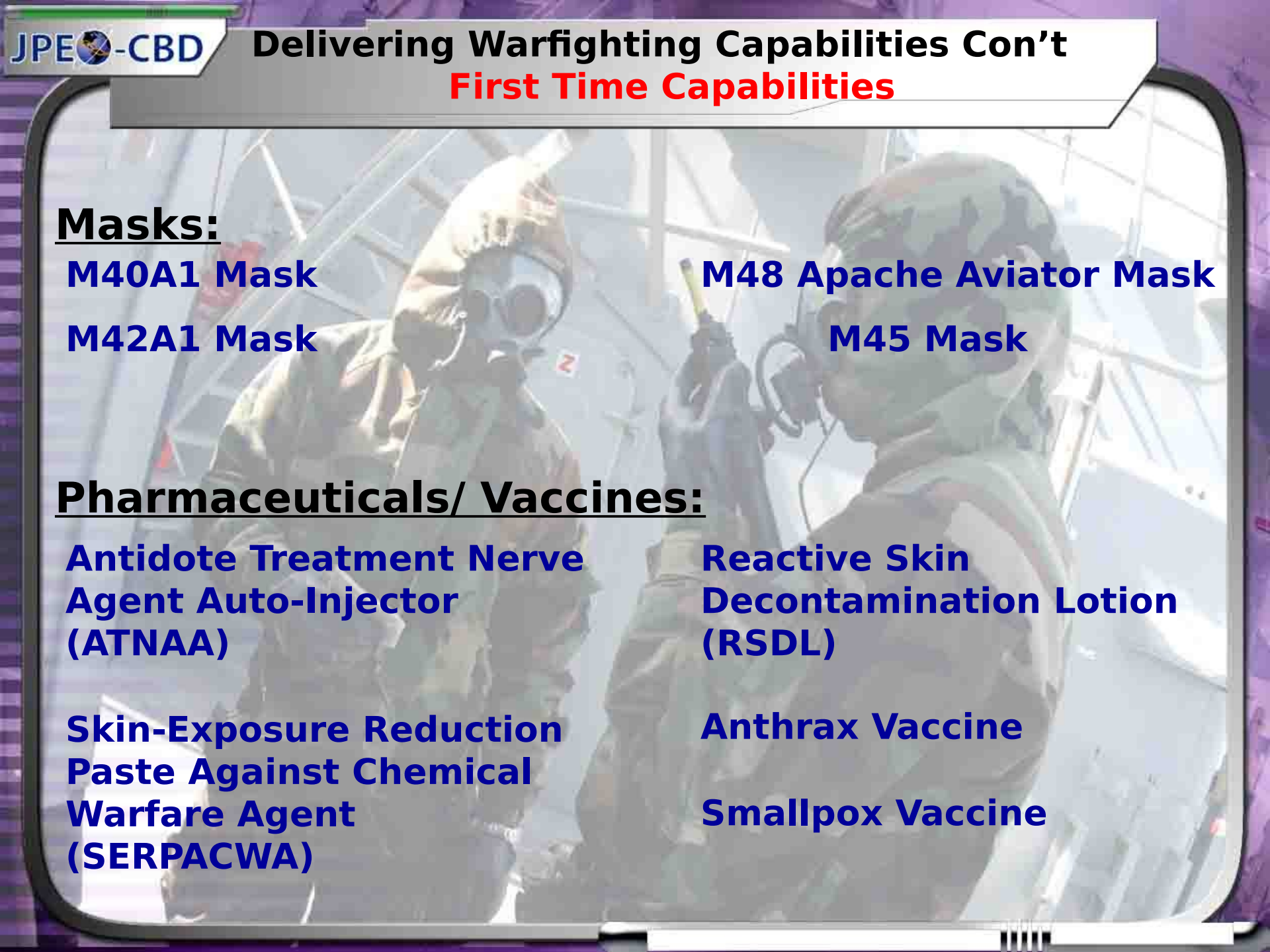
Improved Chemical Agent Alarm (ICAM)

AN/UDR-13 Radiological Detector

XM97 Joint Biological Point Detection System (JBPDS); XM98 JBPDS; XM103 JBPDS

JPEO-CBD

Delivering Warfighting Capabilities Con't
First Time Capabilities



Masks:

- M40A1 Mask
- M42A1 Mask
- M48 Apache Aviator Mask
- M45 Mask

Pharmaceuticals/ Vaccines:

- Antidote Treatment Nerve Agent Auto-Injector (ATNAA)
- Skin-Exposure Reduction Paste Against Chemical Warfare Agent (SERPACWA)
- Reactive Skin Decontamination Lotion (RSDL)
- Anthrax Vaccine
- Smallpox Vaccine

Delivering Warfighting Capabilities

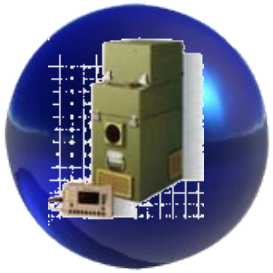
OIF

JPEO-CBD

Accelerating Technology Transition Operation Iraqi Freedom

New Capabilities

Fox TICs Data Chip



Chemical Biological Protective Shelter CBPS

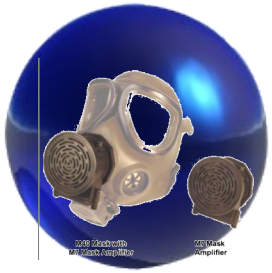
Special Purpose Automatic Chemical Agent Alarm (ACADA)

Navy Bio Detector

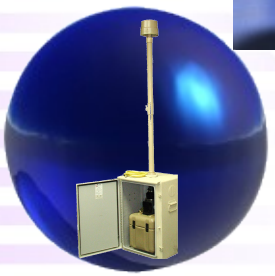
Decontamination System (Karcher)

500+ Special Fit Protective Masks

1600+ Special Fit Protective Suits



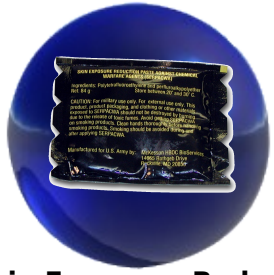
M40 Mask Voicemitter



Dry Filter Unit 2000 (DFU)

Chemically Protected Deployable Medical System (CP DEPMEDS)

Antidote Treatment, Nerve Agent Autoinjector



Skin Exposure Reduction Paste Against Chemical Warfare Agents (SERPACWA)

JPEO-CBD

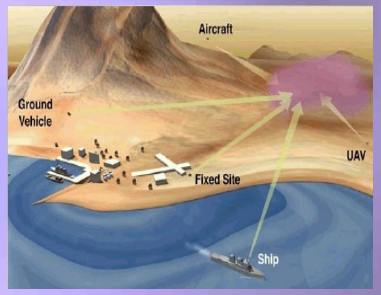
Where We're Going
New Systems

JPEO-CBD

Contamination Avoidance

Automatic Chemical Agent Alarm (ACADA)

ARTEMIS



Biological Integrated Detection System (BIDS)

Chemical Biological Mass Spectrometer (CBMS II)

Dry Filter Unit (DFU)

Joint Service Light Standoff Chemical Agent Detection (JSLSCAD)

FOX93A1 Block I

Improved Chemical Agent Monitor (ICAM)

Joint Chemical Agent Detector (JCAD)

Joint Biological Standoff Detection System (JBSDS)

Light Vehicle Smoke System (LVOSS)

Joint Service Lightweight Nuclear, Biological, Chemical Reconnaissance System (JSLNBCRS)

Contamination Avoidance con't

Joint Portal Shield (IPS)

Joint Biological Point Detection System (JBPDS)

Radiation Detection, Indication and Computation (RADAIC)AN/ PDR-75

Mobile Chemical Agent Detection (MCAD)

M-56 Millimeter Wave (MMW)

Stryker NBCRV (Nuclear, Biological, Chemical Reconnaissance

Radiation Detection, Indication and Computation (RADAIC)VDR-2

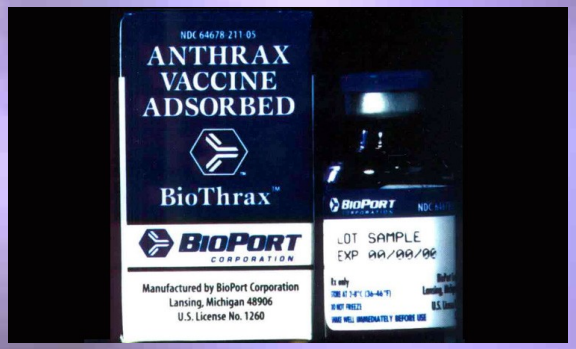
Multi-Spectral Smoke Grenade and Pot (MISGAP)

M-56 Coyote Smoke Generation System

TICs (Draeger)

Robotics Obscuration Platform

Medical Systems



Anthrax Vaccine Adsorbed (AVA)

Joint Biological Agent Identification and Diagnostic System (JBAIDS)

ANTIDOTE TREATMENT
NERVE AGENT, AUTO-INJECTOR
For Use In Nerve Agent Poisoning Only
ATROPINE INJECTION 2.1MG, PRALIDOXIME CHLORIDE INJECTION 600MG

Antidote Treatment, Nerve Agent Autoinjector (ATNAA)

Soman Nerve Agent Pretreatment, Pyridostigmine (SNAPP)

21 TABLETS
PYRIDOSTIGMINE BROMIDE USP 30 mg
(Soman Nerve Agent Pre-Treatment Tablets)
NSN 6505-01-178-7903
Rx only
Directions for use:
1. START TAKING ONLY WHEN ORDERED BY YOUR COMMANDER
2. TAKE ONE (1) EVERY EIGHT (8) HOURS
3. IT IS DANGEROUS TO EXCEED THE STATED DOSE
Lot No.: 3B0003
Expiration Date: FEB 2013
DISCARD CONTENTS 3 MONTHS AFTER ISSUE
ICN Canada Limited, Montreal, Quebec H4M1V1

Skin Exposure Reduction Paste Against Chemical Warfare Agents (SERPACWA)

Decontamination

Joint Service Sensitive Equipment Decontamination (JSSED)

M100 Sorbent Decon System (SDS)

Karcher

Joint Service Family of Decontamination Systems (JSFDS)

Guardian

Analytical Laboratory System (ALS)

Unified Command Suit (UCS)

Collective Protection

Chemical Biological Protective Shelter (CBPS) U.S. Army

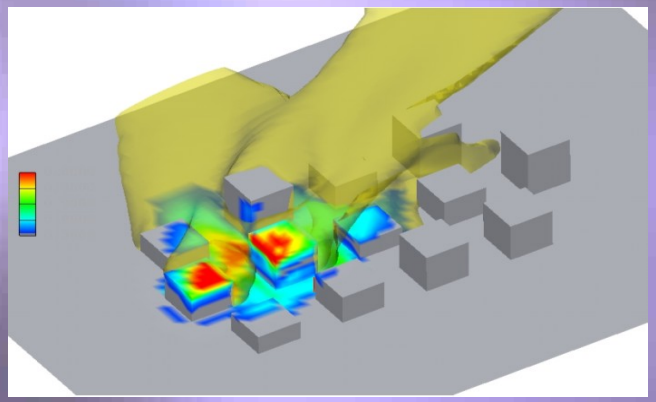
Chemical Protected Modular General Purpose Tent System (CPMGPT) Marine Corp

Ship Back Fit
U.S. Navy

Collective Protection Expeditionary Medical Support (CP EMEDS) System
U.S. Air Force

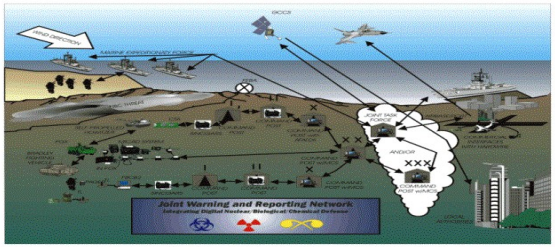
C-17, Air Frame Collective Protection
U.S. Air Force

Information Systems



Joint Operational Effects Federation (JOEF)

Information Systems



Joint Warning and Reporting Network (JWARN)

Joint Effects Model (JEM)

Individual Protection

MCU2P MASK

Joint Service General Purpose Mask XM50 (JSGPM)

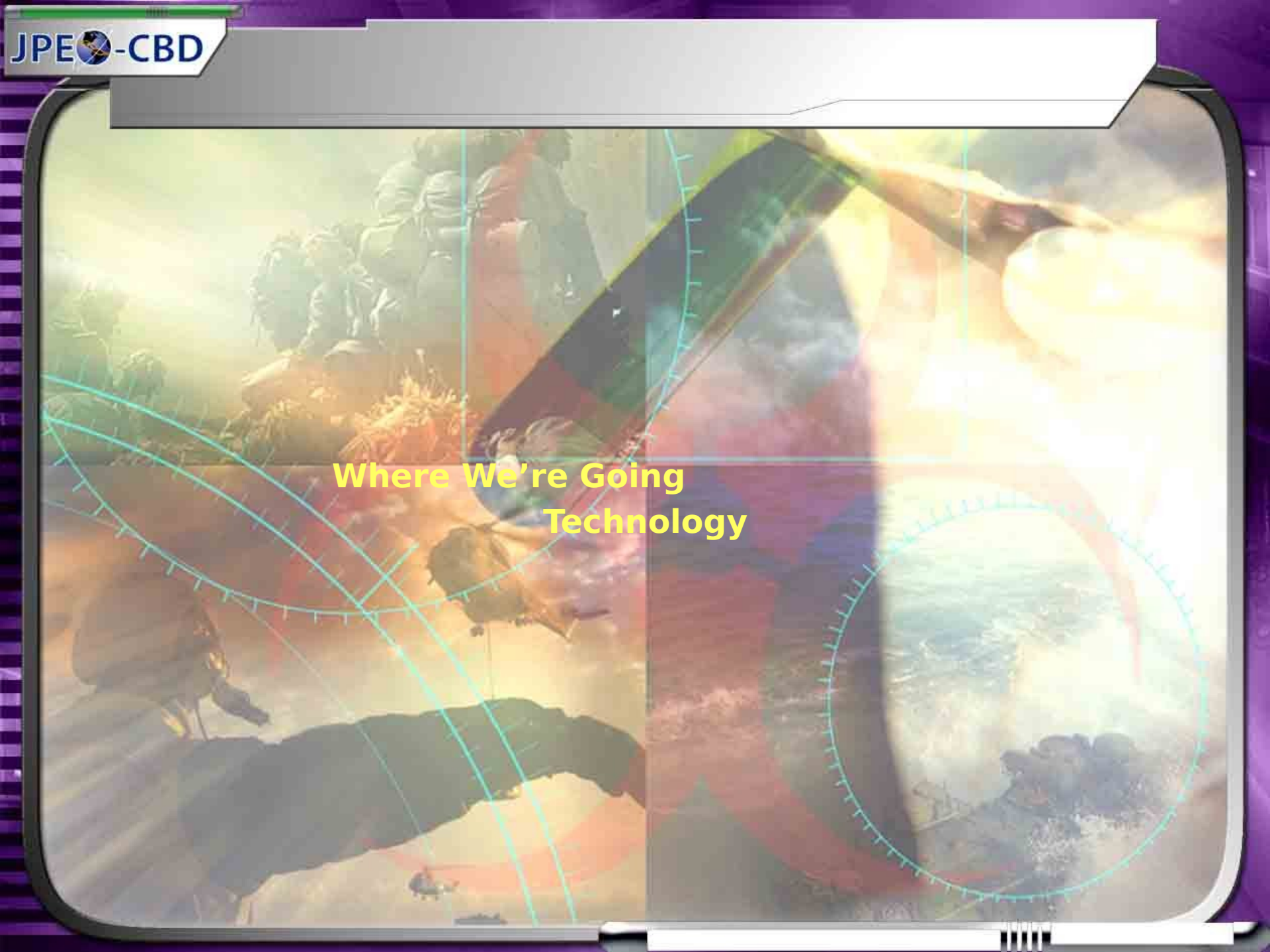
M40 Series Field Protective Masks

Chemical-Biological Protective Boots

Chemical-Biological Protective Gloves

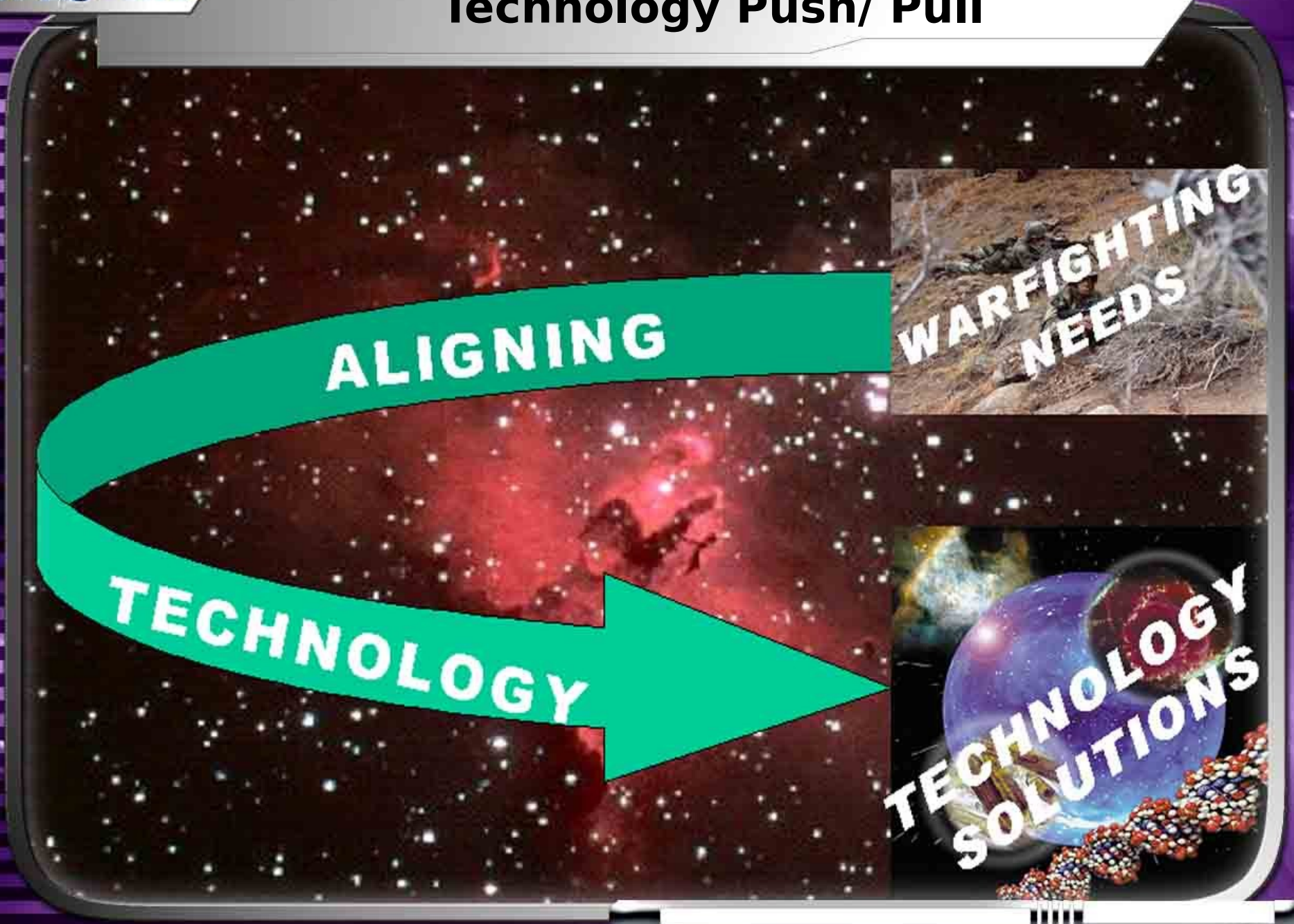
Joint Protective Aircrew Ensemble (JPACE)

Joint Service Lightweight Integrated Suit Technology (JSLIST)


JPEO-CBD
Where We're Going
Technology

JPEO-CBD

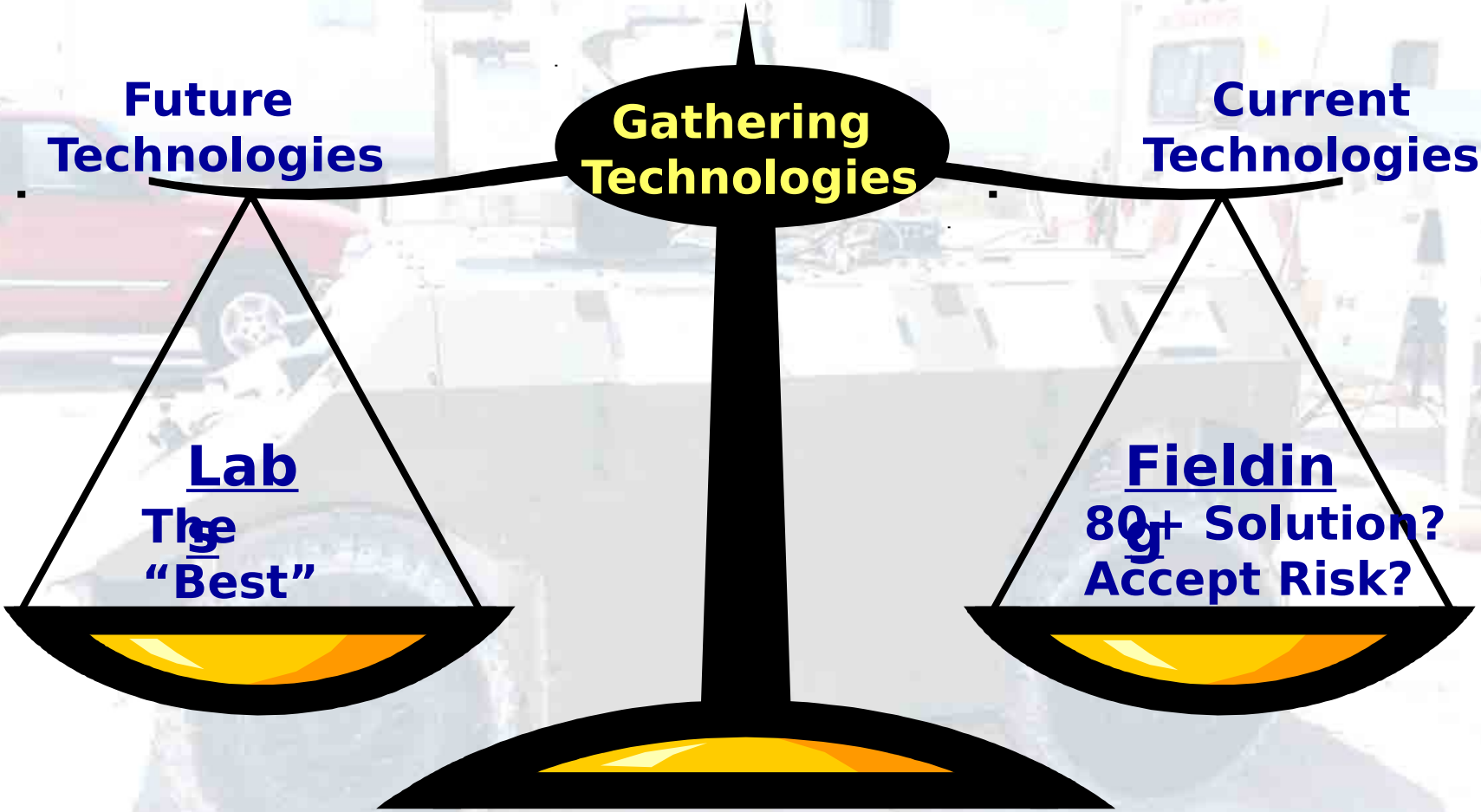
Technology Push/ Pull



JPEO-CBD

Technology Is A Solution… And A Problem

Technology Investment Strategy

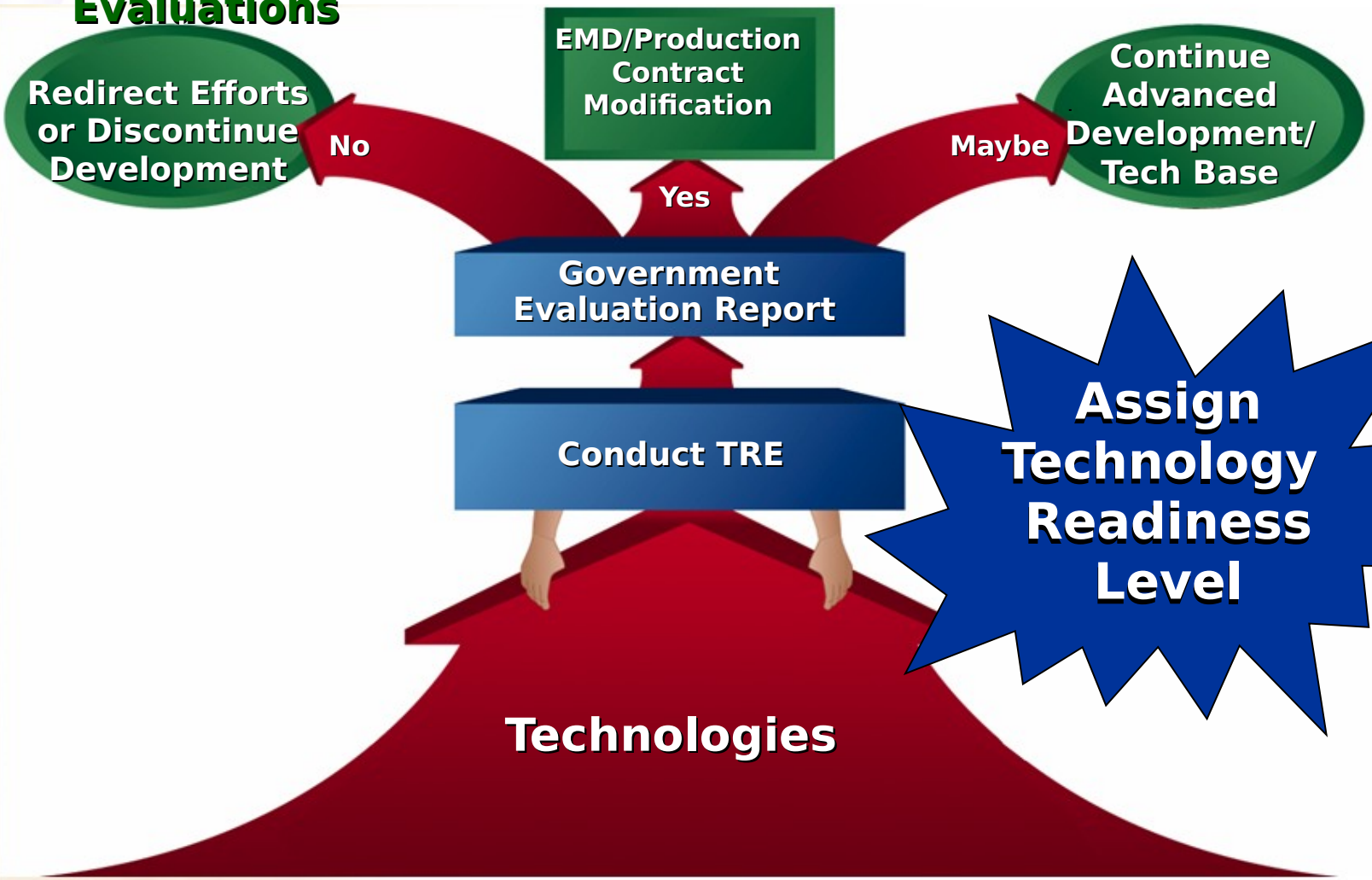


Select "Best" Technologies From Military & Civil Sectors

Technology Readiness Evaluations

Issue: Selling "Anti-Gravity Boots"

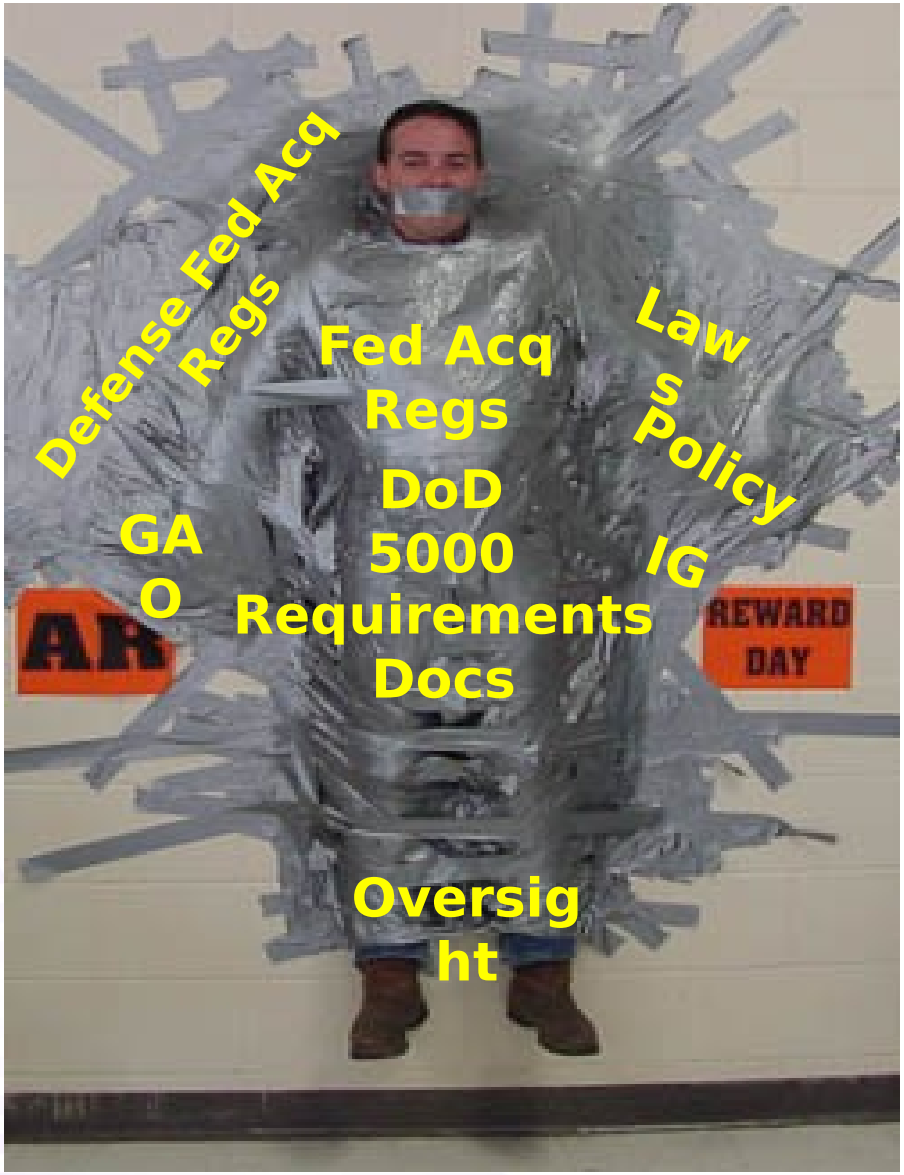
Solution: Technology Readiness Evaluations



Becoming Technology Carnivores

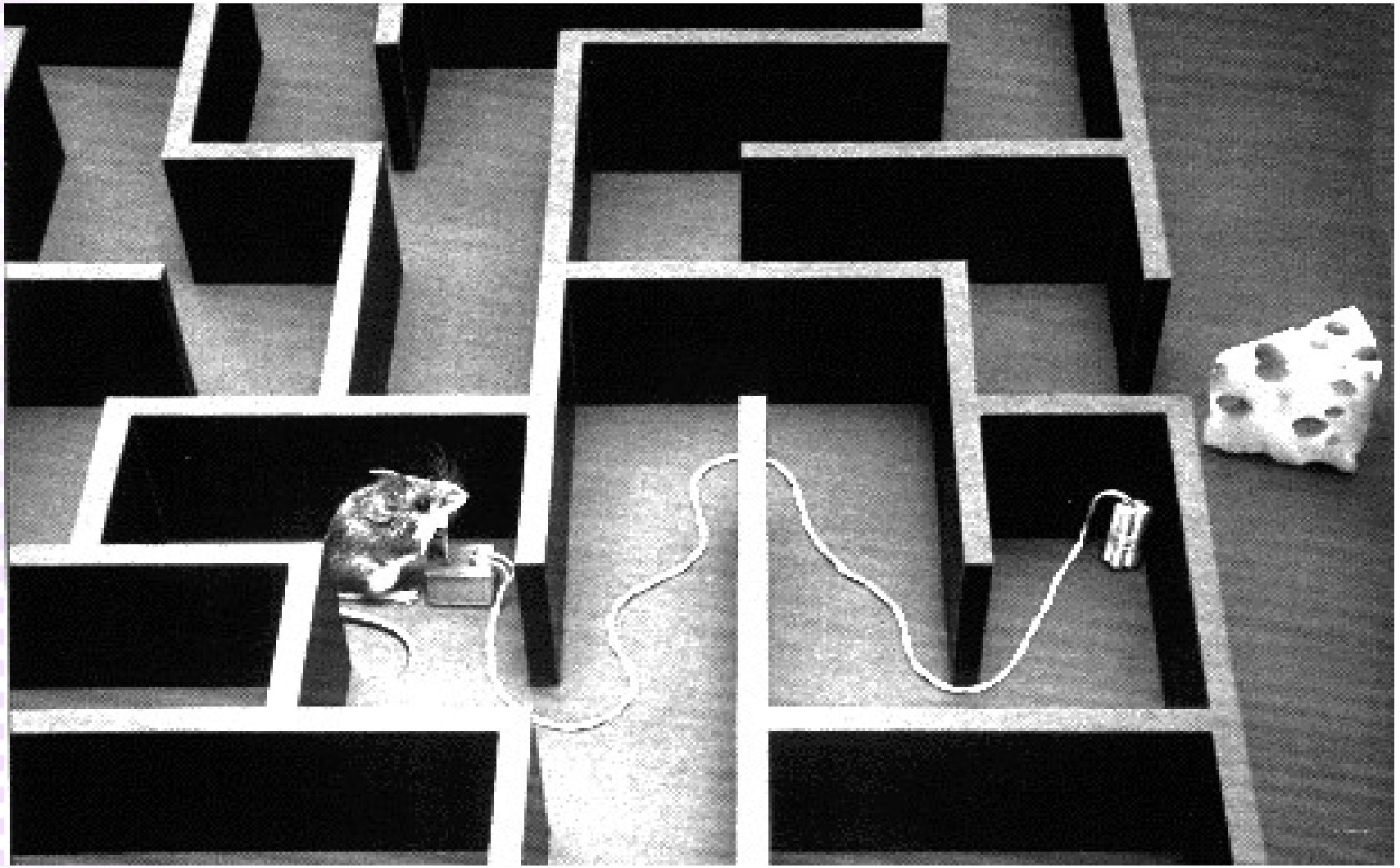
- More Industry Interest
- More Mature Technologies
- Independent Government Testing Required (OSD Feb 03 Policy)
- Selecting Best Available Technologies
- Shorter Development Timeline

The Perception



Trust Me!

Acquisition Leaders Who Can Work the Process



… And Field Systems

Process Solution: Collaborative Environment

Solution: Civil/ Military Integration

Time 0

30 Days

R&D

Concept

Fabrication

Fielding

Operational Assessment Results

LRIP

Production

T&E

PM

User Need

S&T

Field Version

Urban Version

Joint Biological Point Detection System

Process Solution

- **Prudent Risk**
- **Immediate, Adaptive RDA**

Dry Filter Uni

Time 0 — **45 Days**

Concept → **Prototype** → **Testing** → **Production/ Training** → **Fielding**

Urban Design

3-Filter HVAC Design

Capabilities:
Is The Glass Half Full, Half Empty or Twice As Big As it Needs to Be?

Issue: Meeting the Immediate Need

Solution: Range of Technology Options

Low End

Hand-Held Assay (HHA)

Dry Filter Unit (DFU)

Portable Biological Aerosol Sampler (PBAS)

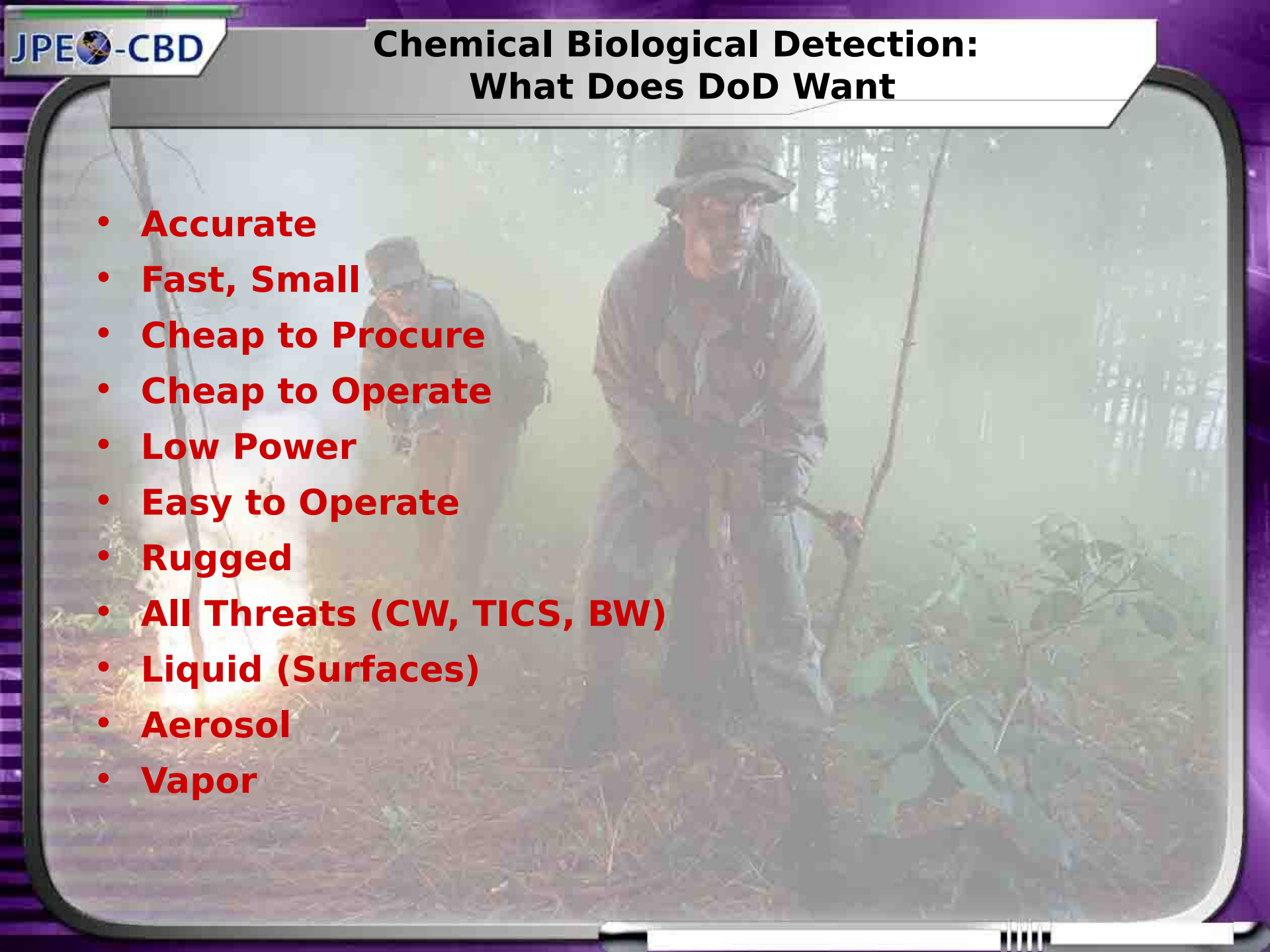
High End

Biological Integrated Detection System (BIDS/ BIDS P3I)

Joint Portal Shield

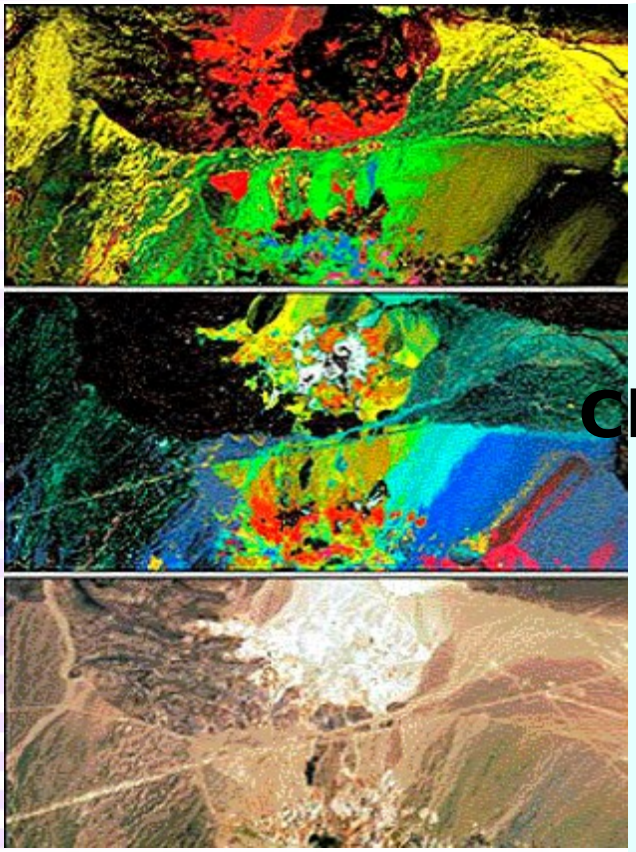
Joint Biological Point Detection System (JBPDS)

Chemical Biological Detection: What Does DoD Want



- Accurate
- Fast, Small
- Cheap to Procure
- Cheap to Operate
- Low Power
- Easy to Operate
- Rugged
- All Threats (CW, TICS, BW)
- Liquid (Surfaces)
- Aerosol
- Vapor

Multi-Mission Sensors
HYPERSPECTRAL IMAGERY



Night Vision
Surveillance
Targeting

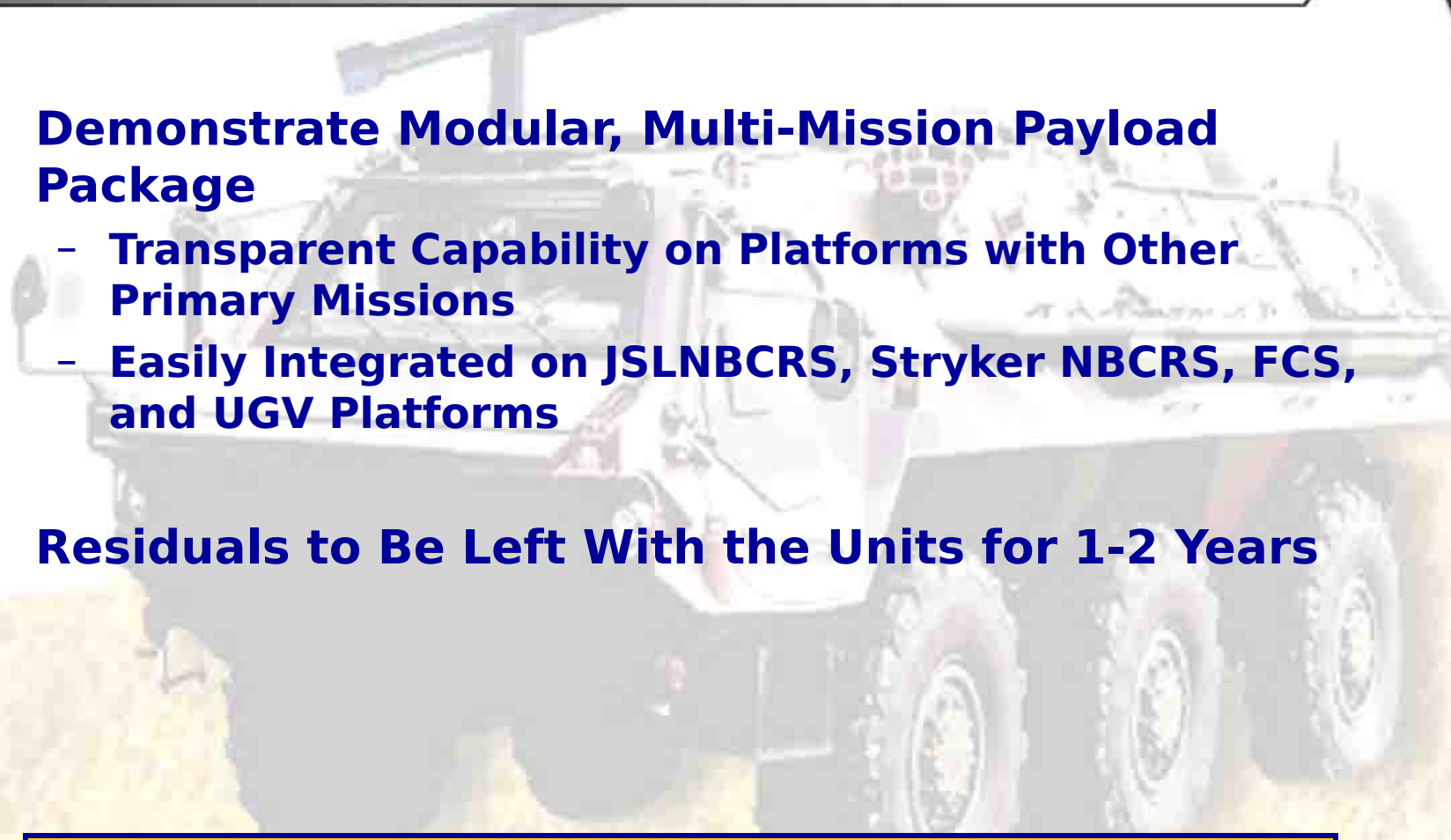
+

Chemical & Biological
Agent Detection

Increasing Capabilities – Reducing Operational Burden

JPEO-CBD

Technology Transition: CUGR ACTD Example



- **Demonstrate Modular, Multi-Mission Payload Package**
  - **Transparent Capability on Platforms with Other Primary Missions**
  - **Easily Integrated on JSLNBCRS, Stryker NBCRS, FCS, and UGV Platforms**
- **Residuals to Be Left With the Units for 1-2 Years**

Up Front Coordination Between All the Stakeholders (Acquisition, S&T, Requirements) is Imperative for a Successful Technology Transfer

JPEO-CBD

Operation Iraqi Freedom
A QUICK LOOK

JPEO-CBD

Operation Iraqi Freedom

- **Chem/ Bio Defense Program After Action Review**
  - **On-Going**
  - **Purpose- Improve Materiel, Tactics, Techniques, Procedures, Identify Shortfalls, New Requirements**
  - **Joint Effort with Joint Requirements Office & Chemical School**
  - **Systematic Scientific Survey**
    - **Engineering Psychologists Develop/ Conduct Survey**
    - **2000+ Service Members Surveyed**
    - **Oct 03 Analysis & Results**

Operation Iraqi Freedom

Quick - Look

Hits

- Protective Suits (JSLIST)
- M40 Masks/ Voicemitter
- Contractor Logistics Support
  - Best Op Readiness Rates in Theater for NBC Recon Systems (FOX)
  - Bio Detection Systems
- FOX “TIC” Chip
- Chem/ Bio Protective Shelters
- Auto Chemical Alarms (ACADA)
- Dry Filter Unit 2000

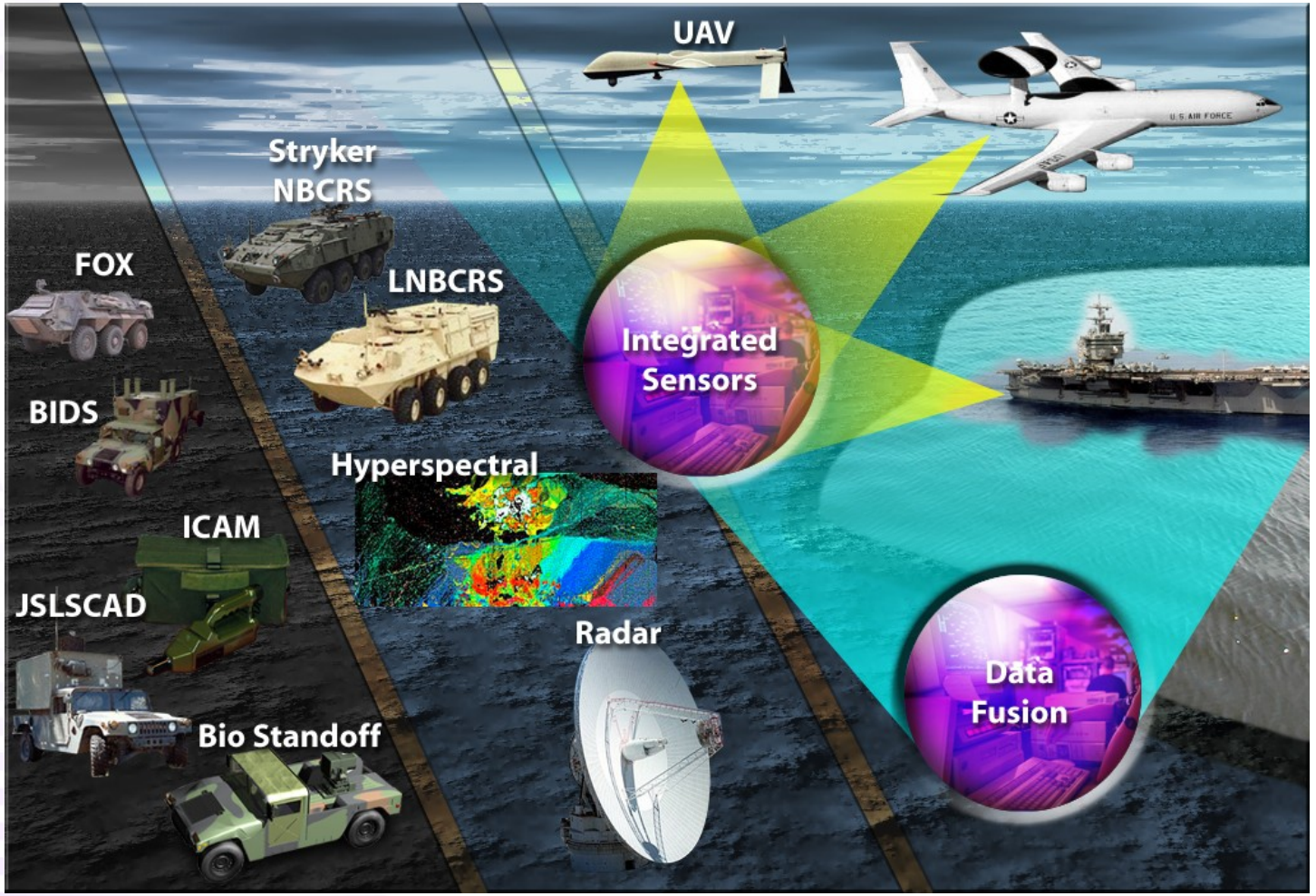
Misses

- Protective Suits
  - Flame Retardant Variant Required
- M40 Mask Carrying Case
  - Some Want Bigger
- Contractor Logistics Support
  - Doctrine/ Regulation Changes Required
- Auto Chemical Alarms (ACADA)
  - 24/ 7 Variant
  - Vehicle Mounts
  - Batteries
- Decon Solutions
  - DF-200
- No TIC Detectors

Operation Iraqi Freedom Priorities

- Complete Surveys and Analysis
- Joint CB Community Conference
  - Safety Release Issues- Top Priority
    - Conditional Material Release Issues- Convert To Full Material Release
      - Lessons Learned “Improvements”
        - New Starts

Network Centric Approaches



Platform-Centric → Multi-Mission → Network-Centric

Sensors Are Transparent – Information is Apparent – Timely, Effective, Reliable, Life-Saving Information

JPEO-CBD

The Reason for Our Success…

… Our People

JPEO-CBD Point of Contact

SOCOM Point of Contact: LtCol Loudy

JPEO on-Site POC will serve as the principal engineer / scientist providing:

- **DoD and SOCOM Acquisition Experience/Knowledge**
- **Give direction/guidance and help tailor JPEO program efforts to meet SOCOM requirements**
- **Drive new initiatives and maintain visibility of JPEO programs to support horizontal technology insertion.**

BG Steve Reeves

http://www.jpeocbd.osd.mil

JPEO-CBD

JPEO Chemical & Biological Defense

(703) 681-9600
5203 Leesburg Pike Falls Church, VA 22041